

U.S. ENVIRONMENTAL PROTECTION AGENCY  
 POLLUTION/SITUATION REPORT  
 San Juan River Response - Removal Polrep



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
 Region IX**

**Subject:** **POLREP #5**  
**San Juan River Response**

**Shiprock, NM**  
**Latitude: 36.8704828 Longitude: -108.7892506**

**To:** Robert Wise, EPA Region 9

**From:** Kathleen Dillon, Situation Unit Leader

**Date:** 8/17/2015

**Reporting Period:**

**1. Introduction**

**1.1 Background**

<b>Site Number:</b>	<b>Contract Number:</b>
<b>D.O. Number:</b>	<b>Action Memo Date:</b>
<b>Response Authority:</b>	<b>Response Type:</b>
<b>Response Lead:</b>	<b>Incident Category:</b>
<b>NPL Status:</b>	<b>Operable Unit:</b>
<b>Mobilization Date:</b>	<b>Start Date:</b>
<b>Demob Date:</b>	<b>Completion Date:</b>
<b>CERCLIS ID:</b>	<b>RCRIS ID:</b>
<b>ERNS No.:</b>	<b>State Notification:</b>
<b>FPN#:</b>	<b>Reimbursable Account #:</b>

**1.1.1 Incident Category**

**1.1.2 Site Description**

The Gold King Mine near Silverton, Colorado is a historic gold mine at approximately 11,300' elevation. The mine has a continuous discharge of acidic mine drainage that is a significant contributor of manganese, zinc, copper, and cadmium into the Cement Creek drainage of the Animas River watershed. The Gold King Mine has not had maintenance of the mine workings since 1991, and the workings have been inaccessible since 1995 when the mine portal collapsed.

EPA Region 9 is focused on a stretch of the San Juan River extending from Farmington, NM to Mexican Hat, UT.

**1.1.2.1 Location**

San Juan County, NM and Navajo Reservation. The Animas River flows into the San Juan River at

Farmington, NM. After the Animas River meets the San Juan River, the San Juan River continues to flow west through parts of New Mexico, Colorado, and Utah.

#### **1.1.2.2 Description of Threat**

Mine waste water was released into Cement Creek and the Animas River. The volume of the release based on US Geological Survey (USGS) Cement Creek gauging station is estimated at three million gallons. The initial environmental concern was the pulse of contaminated water containing sediment and metals discharged in Cement Creek which flows into the Animas River through Durango, Colorado, and into New Mexico where it joins the San Juan River before flowing into Utah. The river is also used for recreational purposes, including fishing and rafting, and is an important cultural resource for the Navajo Nation.

The leading edge of the release reached the New Mexico border on August 8, 2015 where it eventually discharged into the San Juan River.

#### **1.1.3 Preliminary Removal Assessment/Removal Site Inspection Results**

Aerial and ground reconnaissance indicates that the plume associated with the Gold King Mine release has dissipated downstream. There is no leading edge of contamination visible in downstream sections of the San Juan River or Lake Powell.

EPA Region 9 is collecting and assessing water quality from the San Juan River from La Plata Highway in New Mexico to Mexican Hat in Utah. Water sampling is occurring, and pH levels and dissolved concentrations of metals are being monitored.

### **1.2 Incident Objectives**

#### **1. Safety**

- Provide safe working environment for all response personnel.
- Identify safety issues and monitor adherence to Health and Safety Plan
- Ensure personnel receive adequate rest and time off

#### **2. Sampling**

- Daily water and sediment sampling from 11 designated locations along the San Juan River
- Sampling from Lake Powell
- synchronize sampling data and information with Area Command

#### **3. Water Replacement**

- Work with Navajo representatives to staff water points and organize distribution

#### **4. Public Outreach**

- Coordinate public forum at which Navajo tribal leaders and community members can address Incident Command representatives.

## **2. Current Activities**

### **2.1 Operations Section**

#### **2.1.1 Narrative**

Daily operations are focused around gathering water and sediment samples from 11 designated locations in the San Juan River. The Glen Canyon ICP is overseeing sampling in the vicinity of Lake Powell.

Water trucks to address Navajo agricultural and livestock needs have been secured and will be continuing to deliver water to designated locations. The Unified Command has also identified a need on the Navajo reservation to provide feed for livestock.

#### **2.1.2 Response Actions to Date**

##### **Sampling Branch**

EPA Region 9 initiated water and sediment sampling efforts on August 9, 2015, to assess the impacts of the release at the Gold King Mine on the San Juan River. Starting on August 9, samples were gathered from the shoreline of the following 11 designated locations along the San Juan River:

#### **New Mexico**

San Juan River at LaPlata Highway (SJLP)  
 PNM Intake (SJFP)  
 San Juan River at Hogback (SJHB)  
 San Juan River at Shiprock (SJSR)  
 San Juan DS from Shiprock (SJDS)  
 San Juan River at Four Corners (SJ4C)

#### **Utah**

San Juan River at McElmo Creek (SJME)  
 San Juan at Montezuma Creek (SJMC)  
 San Juan River at Bluff Bridge (SJBB)  
 San Juan River at Mexican Hat (SJMh)  
 McElmo Creek Tributary (MECT)

Sample totals are summarized below:

August 8 - 4 water samples (SJLP, SJFP, SJHB & SJSR)  
 August 9 - 13 water samples (all sites)  
 August 10 - 12 water samples, 11 sediment samples (all sites)  
 August 11 - 13 water samples, 13 sediment samples (all sites)  
 August 12 - 13 water samples, 13 sediment samples (all sites)  
 August 13 - 12 water samples, 12 sediment samples (all sites)  
 August 14 - 12 water samples, 12 sediment samples (all sites)  
 August 15 - 12 water samples, 12 sediment samples (all sites)  
 August 16 - 12 water samples, 12 sediment samples (all sites)

There have been no requests for well samples and no requests for samples from diversion channels.

#### **Community Relations Branch**

Region 9 continues daily meetings at designated Navajo Chapters. Chapter meetings are summarized below:

8/10 - Oljeto, Aneth  
 8/12 - Shiprock  
 8/14 - Oljeto, Aneth  
 8/15 - Hogback, Nenahnezad, San Juan, Upper Fruitland, Cudei  
 8/16 - Mexican Water, Gaadli'ahi

Community Involvement Coordinators attended two Chapter meetings yesterday. The first was at Mexican Water Chapter at 10am and the second was at Gadii'ahi Chapter at 1pm.

Two community outreach members spoke at the Mexican Water Chapter meeting. The meeting was attended by around 25 community members as well as Chapter officials. The purpose of this meeting was to apologize and provide updates on the emergency response, and listen to community concerns. Topics discussed included:

- an introduction to the ALERT team (chapter level emergency response)
- when access to the river will resume
- impacts to farmers living next to the river
- desire to see more sampling points tested in the vicinity of Mexican water farms, and
- long term risks related to the spill

The Gadii'ahi meeting was attended by around 40 community members, as well as Chapter officials, a Navajo Council Delegate, a BIA representative, and a representative from the New Mexico State

Legislature. Community involvement coordinators continued to receive questions and feedback on the following:

- agricultural water needs and impacts
- marketability of crops and livestock due to perception issues
- concerns related to claims forms, especially for long term impacts
- questions about long term impacts and remediation
- concern about lifting the ban

Three new community outreach members arrived yesterday. They will act as a liaison to Shiprock, community Involvement field support, and a ATSDR Health Educator

### **Water and Feed Delivery Branch**

A summary of water tank delivery for use for livestock and agriculture is as follows:

8/13 - 11,000 gallons of water delivered to Hal Chita, UT, 7,000 gallons of water delivered to Shiprock, NM

8/14 - 12 tanks (each 16,000 gallons) staged throughout Shiprock chapter

8/15 - 13 tanks (each 16,000 gallons) staged throughout various chapters of Navajo Nation.

Tanks are located at the following positions:

Upper Fruitland Rodeo Grounds  
 Shiprock Rodeo Grounds  
 Gadiiaah Chapterhouse  
 Teec Nos Pos Chapterhouse  
 Red Valley Windmill (near BIA Rte 50)  
 Red Valley Windmill 19-228  
 Page Windmill 017-509  
 Page Windmill 02A-93  
 Five Points Intersection  
 Anneth Chapter House  
 Monument Valley Welcome Center

A summary of feed delivered for livestock is as follows:

8/14 - 384 bales delivered to Gaadiiahi chapter

### **Drinking Water System Impacts**

No known water systems in Region 9 have been impacted.

### **Glen Canyon, Arizona ICP**

Yesterday, EPA and START completed surface water and sediment sampling of Lake Powell. On Sunday, surface water and sediment samples were collected from five locations on the main stem of Lake Powell, including the following: Rock Creek Bay, Gregory Butte, Princess Cove, Navajo Canyon and the Glen Canyon Dam. On Saturday, the EPA/START sampling team collected samples from six locations including the presumed San Juan River inflow into Lake Powell between Zahn Bay and Great Bend, the presumed "plunge line" where river water plunges beneath lake water just east of Great Bend, Paiute Wash and Bald Rock Canyon.

While the team was able to sample Lake Powell from the Glen Canyon Dam to the San Juan River delta there are significant gaps in data. For one, there are a relatively small number of sample locations – 11 total. Also, available sampling tools limited the effort to shallow water sampling locations. Because much of Lake Powell is several hundred feet deep, the team was unable to sample at those areas.

Given that Lake Powell is a hugely critical resource, the Lake Powell Branch believes it is extremely important for EPA to evaluate potential impacts to the lake from the Gold King mine release. Team members have also received numerous phone calls from various agencies inquiring about the need to

examine Lake Mead, although this would seem to be a less urgent or immediate need pending the outcome of Lake Powell sampling efforts.

The upcoming USGS/NPS Lake Powell Mercury survey beginning this week would give EPA the opportunity to almost immediately begin this evaluation, and the Lake Powell Branch suggests that it would be a big mistake to miss out on this generous invitation from both a data need and a public perception perspective.

The Lake Powell Branch will be reviewing the details of the Mercury sampling program and believes that this survey could be modified to include priority metals in their analytes list. Our goal would be to gain a better understanding of heavy metals distribution in the water column and sediment throughout Lake Powell. EPA would have to provide funding and or lab support to participate in this event, however it would be money well spent as it would cost much more to do this on our own.

## **2.2 Planning Section**

### **2.2.1 Anticipated Activities**

Sediment and water sampling of the eleven data points on the San Juan River will continue today. Two samples along San Juan River (Mexican Hat and Bluff Bridge) will be gathered from the middle of the channel via small boat. The other 9 sample sites will continue to be gathered from the shoreline.

Sampling in the vicinity of Lake Powell will also continue out of the Glen Canyon ICP.

A more robust water distribution system has been established throughout Navajo Nation. Water tanks are now staged at 13 total points throughout Navajo Nation with a capacity of 32,000 gallons of water at each location except for one location that has a capacity of 16,000 gallons. Tanks will be tested today for water quality.

Additional representatives from the EPA's community relations team have arrived at the Farmington ICP.

#### **2.2.1.1 Planned Response Activities**

Continued daily water and sediment sampling is planned.

Refilling water tanks staged throughout Navajo Nation will continue as needed.

Community Outreach Branch at Farmington ICP will continue outreach with members of Navajo nation.

#### **2.2.1.2 Next Steps**

Improve relationship with Navajo Nation.

### **2.2.2 Issues**

No current issues.

## **2.3 Logistics Section**

The Glen Canyon ICP will meet with NPS today to address the objectives and logistics of their survey trip, and subsequently, it anticipates working with the Farmington ICP in development of a Resource Request in support of this ten day expedition.

## **2.4 Finance Section**

### **2.4.1 Narrative**

Yesterday, there was a burn rate of \$7,320.17 with a weekly burn rate of \$51,241.18. On average a total

of \$4,302.23 is spent on personnel per day.

A total of \$222,693.50 is committed for upcoming operations.

## **2.5 Other Command Staff**

### **2.5.1 Safety Officer**

Personal Flotation Devices must be worn by all members of sampling teams while underway on any watercraft. When performing boat operations, a representative from each vessel must contact the Situation Unit Leader at intervals of no more than two hours stating location and current operations. Any lightning sighting will cause a stop to operations.

With weather being forecasted into the mid 90s, hydration is of paramount importance. Additionally, much of the terrain surrounding the river is uneven and rocky. Responders should transit these areas.

While transiting throughout the region, responders should be mindful of the potential for contact with wildlife. Scorpions, snakes, and other similar animals raise a potential for injury.

### **2.5.2 Liaison Officer**

Liaison officers are continuing outreach with Navajo community members and representatives of the Navajo Tribe.

### **2.5.3. Weather Forecast**

Weather forecast for Monday, August 17

#### **FARMINGTON AREA**

##### *Today*

A mix of sun and clouds with a high of 95, low of 60 and 20% chance of precipitation. Wind coming out of the southeast at 8 miles per hour.

##### *Tonight*

No precipitation tonight. Partly cloudy, with a low around 60.

##### *Tomorrow*

Sunny with a high of 92, low of 56. 20% chance of precipitation.

## **3. Participating Entities**

### **3.1 Area Command**

EPA Region 9 is coordinating with EPA Regions 6 and 8, Navajo Nation, and the states of Colorado, New Mexico, Utah, and Arizona. The EPA Region 9 is working with the Navajo Nation to evaluate possible impacts to the Tribe. Potentially impacted water systems have been notified, and precautions are in place to ensure drinking water is protected. The EPA and New Mexico Environmental Department are providing assistance to community water systems and closely monitoring the situation. EPA Region 9 has contacted the Bureau of Indian Affairs regarding potential impacts to the Navajo Nation and is currently working with Navajo liaisons.

### **3.2 Unified Command and Cooperating Agencies**

The UC includes EPA Region 9 and United States Coast Guard. Bret Moxley has assumed the role of Incident Commander.

## **4. Personnel On Site**

EPA - 8

EPA START - 13

ERRS - 5  
USCG - 8  
Navajo Liaisons - 2

**5. Definition of Terms**

No information available at this time.

**6. Additional sources of information**

**6.1 Internet location of additional information/report**

[www.epa.gov/goldkingmine](http://www.epa.gov/goldkingmine)

**7. Situational Reference Materials**

No information available at this time.